

EXHIBIT 5

Vehicle Crush Stiffness Coefficients

Neptune Engineering, Inc.

REF NO.	YR	MAKE	MODEL	BODY	TRAN	VIN	WB	WT	V-EFF	STRU	PDOF	%OL	#C's	DDW	FoBP	BBE	X_C	b0	b1	Kv	A	B	TEST#
PickF254A	12	FORD	F250 SuperCrew4Dr	PU	A4	1FT7W2B68CEA63185	172.4	7601	35.0	Front	0	100%	6	71.0	N/A	N/A	22.0	4.3	1.4	220	520	170	A:7623
*4/20/2013						Snd Weight	7008											4.50	Default Value For "b0"				

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The proper use of the data contained in this publication requires a thorough understanding of vehicle dynamics. The user should recognize that there is a degree of variance in the level of damages sustained by "identical" vehicles during controlled barrier collisions. The user also should recognize that the potential variance in the level of damages sustained during a "real-world" collision is even greater. Sound engineering judgment, therefore, should be used when applying the enclosed data in the reconstruction of "real-world" collisions. The user must accept full responsibility for any decisions that are based, in whole or in part, upon information obtained by using this data. It is important that the user of this data understand how the coefficients were determined. It is important that such knowledge be considered when rendering the engineering judgments required during their use. The coefficients are determined using concepts and procedures presented in Society of Automotive Engineers papers 920607, 940913, 950358, 960896, 980024 & 1999-01-0105. Please contact Neptune Engineering, Inc. should you have any questions.

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APPENDIX

Table A1. Front, rear and side stiffness values by class of passenger car. The mean, standard deviation (SD), and number of samples (n) for each category are given.

		Passenger Cars							
		Subcompact		Compact		Mid-Size		Large	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Wheelbase (in)		96.7	4.5	100.6	3.3	107.1	2.7	112.4	3.0
Curb Weight (lb)		2363	399	2684	299	3190	263	3633	273
Front	A (lb/in)	230	29	253	35	292	38	282	40
	B (lb/in ²)	79	13	87	19	98	20	87	21
	n	16		36		32		19	
Rear	A (lb/in)	202	78	193	45	213	48	182	26
	B (lb/in ²)	73	44	56	21	59	25	37	4
	n	8		20		11		2	
Side	A (lb/in)	97	23	92	13	95	17	94	5
	B (lb/in ²)	73	33	65	14	59	18	51	6
	n	2		9		16		6	

Table A2. Front, rear and side stiffness values by class of light truck. The mean, standard deviation (SD), and number of samples (n) for each category are given.

		Light Trucks									
		Small Pickup		Standard Pickup		SUV		Van		Minivan	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Wheelbase Min(in)		105.9	2.7	118.5	8.6	107.8	9.5	130.5	7.0	115.4	3.7
Wheelbase Max(in)		121.8	8.0	134.5	9.9	109.4	9.8	144.3	8.1	117.5	3.4
Curb Weight (lb)		2978	391	4097	832	4235	858	4779	464	3900	390
Front	A (lb/in)	290	45	341	91	381	61	390	10	330	64
	B (lb/in ²)	109	26	122	52	137	42	150	15	108	28
	n	6		25		48		4		12	
Rear	A (lb/in)	237	14	241	86	410	110	No data available		347	110
	B (lb/in ²)	77	10	74	38	177	71			136	79
	n	4		5		9				4	
Side	A (lb/in)	120	N/A	149	16	147	49	No data available		94	4
	B (lb/in ²)	92	N/A	92	16	112	49			47	0
	n	1		3		10				2	